



Workgroup Laser Printers

If you want a laser printer you can share with others, make sure you pick one that means business. These nine models are fast, cheap to run and designed to cope with the demands of multiple users

IN THIS REVIEW

Brother HL-6050DN
Dell M5200n
Epson EPL-N3000
HP LaserJet 2420n
Kyocera Mita FS-1920N
Lexmark E342n
Oki B6200N
Samsung ML-3561N
Tally Genicom Intelliprint 9035NL

Budget laser printers are great for printing letters and business documents, but they can be tricky to share between many users. Printers with a network port start at £150, but these are often just budget models with an expansion card. They're slow, expensive to run and not suitable for more than a few occasional users.

If you're starting a business or running a network, it's worth choosing a purpose-built workgroup printer. These cost more to buy and tend to be bulkier, but if you print lots of pages over a few years you can easily recoup the

difference. These printers are also faster, so you'll spend less time waiting for vital documents.

LASER SHARP

This month we've tested nine laser printers that are designed for regular business use. They can all be plugged into a network so several staff can print, and they are all built to print thousands of pages without complaint. As usual, we've subjected each one to a battery of tests to determine their print quality, speed and costs. You're sure to find the best laser printer for your business needs here.



CHOOSING A...

WORKGROUP LASER PRINTER

A workgroup laser will easily satisfy the needs of multiple users, but before you buy one you should give some thought to running costs, networking considerations and ease of use. Our buying guide will help

All the printers we tested can keep pace with a typical small workgroup, printing up to a few thousand sheets of paper each month for around 10 users. Not all are built to cope with heavy use, though, and a more demanding scenario could soon overwhelm some of the more affordable models. As with any printer, it's important to work out exactly what you need before you buy.

PENNY PINCHER

A printer's running costs are not easy to work out, and they aren't always the first thing you think of when choosing one. However, they're very important when you are running a networked printer that may print anything up to hundreds of thousands of pages.

The table on page 206 shows running costs in two ways. We give a simple cost per page, which is calculated by dividing the cost of a printer's consumables by how long each will last. This gives a quick indication of the ongoing cost of printing, but it doesn't account for the supplies that are included with each product when new.

Our estimated total ownership costs for each printer include its purchase price, plus the cost of all the consumables you'd need to buy to print the specified number of pages. These figures include the life of the supplied items, giving a more accurate comparison of true print costs. They can reveal how some apparently expensive printers are bargains in the long run, and vice versa.

We expect workgroup printers to have running costs of no more than a penny per page; the best cost around half as much. None of our calculations includes the price of paper, which costs around half a penny per A4 sheet when bought in bulk.

UP AND RUNNING

If you're choosing a printer for a network, you may understand enough to manage the installation yourself. Nonetheless, it helps if the printer manufacturer can make this process quick and easy.

All the printers in this group test connect directly to a wired Ethernet network and will accept print jobs from any networked device that uses a



▲ Kyocera's toner pack contains everything the FS-1920N needs to print 15,000 pages, and it costs just £70

supported protocol and print language. To talk directly to a network printer in this way, Windows needs to create a network print port with the printer's IP address or network hostname. This can be done manually via the Add Printer Wizard, but each manufacturer's install routine should create one or guide you through the process.

IDIOT PROOF

None of the printers on test is that hard to lift. Setting each one up entails nothing more than removing some packaging and inserting one or two consumables. This is quick work for a network administrator, but it's important to consider whether a non-technical user would struggle to replace exhausted supplies.

Most of the printers use a single consumable that includes both toner and a replacement imaging drum. Lexmark's E342n and Brother's HL-6050DN use separate supplies for each. In the HL-6050DN's case this helps to keep running costs down, but there's a risk that a confused user may replace the wrong item.

It's easy to load paper into any of the printers here, but not all of them can be loaded with an entire ream of paper at once. Each has a manual feed or multipurpose tray, but the simple slot on Lexmark's printer is only designed for single sheets. Every printer's inputs are marked to show the correct paper orientation, but the envelope markings on three are wrong.

SWEET REAMS

The slowest printer in our group is rated at 24 pages per minute (ppm), which is quick enough for all but the most intensive needs. A busy workgroup printer shouldn't spend too much time idle during the day, but none of the products here needed more than a minute to print a page from sleep mode. HP's LaserJet 2420n didn't need any warm-up time and consistently delivered the first page of simple jobs in under 10 seconds.

These printers are designed to cope with high workloads. The two most expensive products tested are designed to have a lifetime of one million pages. Under exceptional circumstances, each could deliver 175,000 prints in a month, but there is still a chance they could break down. Six of the group have onsite warranties, and for just £153 Dell will cover the M5200n for five years.

Even the best specified printer may need upgrading if your company grows. All the printers we tested can take extra paper cassettes, and extra features such as automatic duplex (double-sided) printing or output sorting are available for many.



▲ Supersize me: the standard Kyocera Mita FS-1920N is very compact, but it's a different beast when fitted with all the available paper-handling options



▲ Workgroup printers require less frequent restocking if they can hold a whole ream of paper; three printers here have cassettes suitable for just 250 sheets



LEXMARK E342n

EXCLUSIVE

RATING ★★★★★

PRICE £299 inc VAT

SUPPLIER www.dabs.com

DETAILS www.lexmark.co.uk

Lexmark makes a wide range of workgroup laser printers, but for this test we've chosen the new E342n. This is designed for smaller workloads than the other printers here, with a lower maximum duty cycle, and it comes with a low-capacity toner. The E342n costs the least by some margin, though, and its 30ppm engine speed is not to be sniffed at.

This is the lightest and most compact printer on test, and its unusual black and silver finish makes it stand out. It leased an IP address on our network and automatically printed a configuration report. Lexmark's install program offers lots of useful network tools and is simple to use. However, it's easy to install the printer accidentally on a parallel port.

The E342n's standard paper cassette holds just 250 sheets, and the guides on the printer's single page manual feed were reluctant to move between paper sizes. Envelope orientation is marked, but the raised black icon is hard to see. Our tests emerged crumpled, but not when we used the straight paper-path output at the rear.

We were impressed by this printer's speed, particularly when printing our mixed-colour document, where it recorded the third fastest time. The same document was much slower using the PostScript driver, taking three minutes and 15 seconds, but driver choice made little difference to speed in other tests.

This printer's text quality was fine, with crisp and smooth outlines. Graphics were best when printed at 1,200dpi using the PostScript driver, but at this resolution the speed was halved.

VERDICT

The E342n has limited scope for upgrades and higher running costs than the other printers here, so it is the wrong choice for departmental use. However, its print costs aren't unreasonable for low volume workgroup use, so it is suitable for small businesses or heavy home users.



Small; fast; inexpensive to buy



Best suited to small workgroups; comparatively high running costs

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 30ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces.

Part code 0028S0610



OKI B6200N

RATING ★★★★★

PRICE £387 inc VAT

SUPPLIER www.misco.co.uk

DETAILS www.oki.co.uk

Unlike Oki's laser-class consumer printers, which use an LED light source, the B6200N workgroup printer uses a conventional laser engine. It seems similar to the Epson and Tally Genicom products, but has a slower engine speed and a lower paper capacity and duty cycle.

For the money, the B6200N is well specified. It's the only printer here with a serial port, and its 128MB of memory is the most generous in the group. Its main paper cassette holds up to 250 sheets and a second multipurpose cassette a further 150. The printer has support for a bewildering array of operating systems and network print protocols, and is designed for a lifetime of 600,000 pages.

Oki's setup program successfully found the B6200N on our network, although we needed to run the discovery routine twice in order to install both PCL and PostScript drivers. Luckily DHCP is enabled by default, as the printer's menu structure is a little confusing. The supplied 6,000-page single consumable drops simply into place; 10,000-page replacements are available, but even with this the running costs could be lower.

This B6200N was a little slow when printing our mixed-colour document. The PostScript driver improved its speed to 14.7ppm, but most other printers here managed a better time.

Graphics printed by the B6200N were satisfactory, especially when using the PostScript driver, but text had slightly soft outlines. Following the envelope orientation marks in the multipurpose cassette led to addresses being printed upside down. Although envelopes remained crease-free, we couldn't get the address correctly aligned on the page.

VERDICT

Despite a couple of rough edges, this is an affordable and well-specified workgroup laser printer. It compares well to more expensive models, but it needs lower running costs to excel.



Well specified with plenty of upgrade potential



Unimpressive print quality; running costs not the best; confusing control panel; poor envelopes

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 24ppm maximum speed, 10/100 Ethernet, USB, parallel and 25-pin serial interfaces.

Part code 09004083



BROTHER HL-6050DN



RATING ★★★★★

PRICE £415 inc VAT

SUPPLIER www.savastore.com

DETAILS www.brother.co.uk

Although Brother's HL-6050DN is one of the cheapest printers here, it's the only one with an automatic duplexer. This doesn't add noticeably to its size, though, and only Lexmark's E342n and Kyocera Mita's FS-1920 are significantly smaller.

Setting up the printer involves inserting its drum and toner, but this is simple. Brother is the only company here to supply a full-capacity toner with its printer, but its 7,500-page yield isn't a match for the huge starter supplies shipped by Tally and Dell. The HL-6050DN's running costs are the third lowest here, but with two consumables it isn't foolproof to service.

The HL-6050DN should be easy enough for the least technical network users in everyday use. Its main cassette takes an entire ream of paper, so it is easy to keep stocked. The multipurpose tray has a high 100-sheet capacity, but doesn't tell you how to orientate envelopes. The printer prompts you to use its 50-sheet rear output tray for envelopes – but they emerge crumpled.

Like the Oki B6200N, this printer's engine is rated at 24ppm. However, when printing with the PCL driver, it was faster than the Oki in all our tests, except when printing images at 1,200dpi. Graphics and photographs were far too dark at the default settings.

The PostScript driver made a big difference. The quality of photos was markedly better, although they took about 50 per cent longer to arrive. Our mixed-colour test took over 15 minutes to finish printing, though the quality was fine. Both drivers produce very good text, with clean, step-free outlines at 600 or 1,200dpi.

VERDICT

The HL-6050DN has great text quality, duplex printing and a balanced specification. It's not the fastest printer here, but if you won't often print graphically rich documents then its sensible running costs make it a great buy.



Compact; automatic duplexing; reasonable running costs; excellent text quality



Very slow PostScript printing; poor PCL graphical output

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 24ppm maximum speed, 10/100 Ethernet, USB Hi-Speed and parallel interfaces.

Part code HL6050DNU1



SAMSUNG ML-3561N

RATING ★★

PRICE £464 inc VAT

SUPPLIER www.dabs.com

DETAILS www.samsung.co.uk

Samsung's stylish ML-3561N stands out from our collection of beige, grey and black printers. Its clean lines aren't broken up by too many fussy details and the 100-sheet multipurpose tray is disguised by a smooth panel at the front.

Setting up the printer involves dropping in a single consumable and removing a few bits of tape. A small piece of black plastic pinged off our test model during the process. We couldn't find where it came from, but the loss didn't seem to affect the printer's performance.

The *Shopper* test network uses DHCP to assign IP addresses, but the ML-3561N is set to use static addressing by default. Its control panel network menu is confusing, and we had to refer to the manual before we could enable DHCP. Because this step was necessary before we could install Samsung's software, we had to locate the PDF manual on the product CD. After the printer successfully leased a network address, Samsung's installer found it on our network. The typical installation didn't add a PostScript driver, which is available as a custom option.

The ML-3561N proved to be one of the fastest printers in our text tests and it produced the highest-quality output. Characters had razor-sharp outlines with no traces of spattered toner around the edge and remained very clear down to a tiny two-point font size.

Our mixed-colour test slowed down the ML-3561N considerably. Though the printer's graphical and photo results had excellent shading and detail, they had more light banding than those produced using other printers on test.

VERDICT

The ML-3561N is a fast printer that could bring a welcome dash of style into the office, but it's more expensive to own than competitors such as Kyocera Mita's FS-1920N. With high running costs, it's just too pricy to make an effective workgroup printer.

✓ Very fast; excellent text quality

✗ Fiddly control panel menu and network setup; high running costs; crumpled envelopes

SPECIFICATIONS Mono laser, 600x600dpi, 33ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces.

Part code ML_3561N/XEU



KYOCERA MITA FS-1920N

RATING ★★★★★

PRICE £474 inc VAT

SUPPLIER www.savastore.com

DETAILS www.kyoceramita.co.uk



The FS-1920N is the most affordable of Kyocera's workgroup-class mono laser printers, but its price places it mid-group here. Its specifications are fairly competitive, but two products that cost less have faster print engines.

This printer has the smallest footprint here, so it's easy to accommodate in a cramped office. Its install program is less friendly than many of the others, but experienced network administrators should quickly get to grips with it.

Like other Kyocera products with the ECOSYS badge, the FS-1920N's drum is guaranteed to last for the design life of the printer itself, which in this case is three years or 300,000 pages. The only consumable is its toner cartridge. This is available for just £70 and has a yield of 15,000 pages, giving the printer unbeatable running costs of less than half a penny per page. After 30,000 pages, the Kyocera becomes cheaper to own than any other printer on test. Buying it and printing 100,000 pages would cost less than £1,000, not including paper.

Kyocera makes a comprehensive range of upgrades for the FS-1920N that should enable it to adapt to changing print needs. It can be expanded to a maximum paper capacity of 2,000 sheets, fitted with an automatic duplexer for £168, and can even be fitted with a 1,000-sheet output sorter. That said, we'd prefer it if the standard printer didn't crease envelopes.

This printer was the slowest to complete our mixed-colour test, running at just 11.3ppm, but its other results were sound. Its print quality was decent, although it printed text with slightly soft outlines and graphics were a little grainy.

VERDICT

Even without considering running costs, the FS-1920N is a capable all-rounder that can grow with your business. Factor in its low cost of ownership, and it's clearly the best workgroup printer on test.

✓ Exceptionally low running costs; hugely upgradable

✗ Not the best print quality; clunky installer

SPECIFICATIONS Mono laser, 1,800x600dpi, 28ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces.

Part code FS-1920N



HP LaserJet 2420n

RATING ★★★★★

PRICE £519 inc VAT

SUPPLIER www.savastore.com

DETAILS www.hp.co.uk

HP's square, grey LaserJet 2420n looks exactly as you'd expect a business printer to look. We prefer its appearance to the predominantly beige competition, but it hardly sets the pulse racing. It only has a 250-sheet paper input cassette, so it sits lower to the desk than all the other printers bar the Lexmark's 342n.

It's possible to upgrade the 2420n with a 500-sheet paper cassette. However, this gives it a maximum input of only 750 sheets plus a 100-sheet multipurpose feed. The 2420dn model costs around £150 more and has automatic duplex printing, but this facility can't be fitted to the 2420n as an after-sales option.

Like most of this month's printers, the 2420n uses a single consumable that combines toner and an imaging drum. The supplied item is rated for 6,000 pages, but you can buy replacements with twice the capacity. This gives acceptable costs of a penny per page, but many printers here should prove cheaper to own.

Compared to some manufacturers' efforts, HP's user-friendly installer is a delight. It made quick work of discovering and installing the printer on our network, and was the only program that made it easy to install PCL and PostScript drivers at the same time. It prompted us to assign optional location and description information to the LaserJet, which could help demystify large networks with many printers.

We were impressed by the quality and speed of this printer's output in all our tests. It was particularly quick to start printing after long periods of inactivity and was one of the few devices that could print envelopes perfectly.

VERDICT

The 2420n is a swift and capable workgroup printer that is easy to install and maintain, but we have reservations about its running costs and limited upgrade potential. Kyocera's FS-1920N, which costs less, is better in both respects.

✓ Very high all-round print quality; fairly quick; easy to install

✗ Running costs could be lower; limited scope for upgrades

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 28ppm maximum speed, 10/100 Ethernet, USB Hi-Speed and parallel interfaces.

Part code Q5958A



EPSON EPL-N3000

RATING ★★★★★

PRICE £563 inc VAT

SUPPLIER www.savastore.com

DETAILS www.epson.co.uk

The EPL-N3000 looks like a larger version of Oki's B6200N, reviewed on page 201. Its greater height helps it swallow two paper cassettes with a combined capacity of 700 sheets. The bottom tray's 550-sheet capacity means that users can drop a whole ream of paper into it.

The EPL-N3000's capacious output tray holds 500 pages, allowing it to operate unattended for a comparatively long time. A removable face-up tray holds a further 70 sheets. This printer's engine is rated at 34ppm, though, so it could still fill both in less than 20 minutes.

Given that the EPL-N3000 is clearly designed as a workgroup printer, we were surprised that Epson's install program assumed it would be connected via USB. Installing the printer over a network requires you to cancel the search process, set the print port to LPT1 and manually add and assign a TCP/IP printer port.

You can install PostScript drivers only by manually adding a new printer, assigning it the TCP/IP port you created and pointing Windows to the relevant driver on Epson's CD. It's a frustrating process and we wouldn't envy anyone who needs to repeat it on several PCs.

Once installed, the EPL-N3000 has a much greater sense of urgency. It was incredibly quick across all our tests, becoming the fastest mono printer we've timed for our mixed-colour and A4 photo tests. Print quality was fairly high, although the PostScript driver produced graphics that were too dark. PostScript printing slowed the Epson's performance on graphically complex jobs, reducing its speed on our mixed-colour test to just 8.4ppm.

VERDICT

This fast and durable printer's high paper capacities make it suitable for intensive office use. It has decent print quality and reasonable scope for upgrades, but heavy users would benefit from lower running costs.



Very fast; high paper capacity; robust



Tricky to install; PostScript graphics a little dark; running costs could be lower

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 34ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces. **Part code** C11C554001DA



TALLY GENICOM IntelliPrint 9035NL

RATING ★★★★★

PRICE £586 inc VAT

SUPPLIER www.tgshop.co.uk

DETAILS www.tallygenicom.co.uk

At first glance, only a beige plastic top distinguishes Tally Genicom's 9035NL from Epson's EPL-N3000. Both printers are almost exactly the same size, shape and weight, and our table overleaf shows that they have many other physical specifications in common.

The two printers are far from identical, however. The 9035NL is the only printer here that comes without PostScript emulation as standard. It's also unique in having no resident fonts other than Courier. Tally supplies the printer with a generous 10,000-page consumable, so once installed it should print 20 reams of paper before needing further attention.

The 9035NL defaults to a static IP address, and Tally's install program is one of many here with no network search utility. Free onsite installation is included in the printer's price, however, so this should only be a problem with ongoing installations after the initial setup.

The 9035NL uses a Xerox print engine, which is rated to run at 34ppm. When printing our text documents, it narrowly beat the Epson to produce the fastest results. Both printers approached 32ppm, which is the best we've recorded on these tests. The 9035NL was slightly slower than the EPL-N3000 on graphical jobs, but was still one of the fastest printers on test.

The printer produced decent text and business graphics, but its photo output was less impressive. Grain was evident, and it struggled to reproduce subtly different greys. Envelopes were printed without creasing, but we had difficulty printing addresses in the correct place.

VERDICT

The 9035NL would make a decent workgroup printer, but it's significantly more expensive to run than Epson's similar EPL-N3000. Tally's free installation service is a welcome extra, but the cheaper cost of printing 80,000 pages or more on the EPL-N3000 would save enough to pay Epson's £163 installation fee.



Very fast; high paper capacity; robust; standard onsite setup



No PostScript; ownership costs too high; envelope printing a chore

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 34ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces. **Part code** 043700



DELL M5200n

RATING ★★★★★

PRICE £596 inc VAT

SUPPLIER Dell 08701 524699

DETAILS www.dell.co.uk

Dell's M5200n is the most expensive printer in this group, but it doesn't feel like it. Some of its plastics feel flimsy, and its 100-sheet multipurpose tray doesn't feel solid. It has suitably heavy-duty specifications for workgroup use, but its black plastics and sloping design don't make it look like a business product.

The M5200n was the hardest printer in the group to set up. Dell's installation program doesn't search for it on the network, and requires that you specify the printer's IP address. It isn't too difficult to assign one using the printer's control panel, or print off a report showing details of a DHCP lease, but even when armed with this information the setup process failed twice. It seemed the problem was caused by the proprietary print port created by the installation software. We manually added a custom TCP/IP print port with the M5200n's address and assigned this to the printer, which immediately sprang into life. We experienced no further problems, but our troubleshooting took more than 30 minutes.

Despite having the fastest engine speed in our group, several printers were quicker than the M5200n in our tests. Samsung's ML-3561N managed to outpace it when printing text. Print quality was acceptable at 600dpi, but switching to 1,200dpi output halved the engine's speed.

This printer was the slowest in the group when printing from sleep mode. Its print engine made a regular clunking noise, which only abated as paper passed through it. This was particularly noticeable when printing envelopes, although these were at least crease-free and correctly aligned.

VERDICT

The M5200n has the highest duty cycle of our group, but the Epson and Tally printers feel more robust. The Epson is a better printer, but Dell's keen consumable pricing makes the M5200n less expensive to own.



Heavy duty with low ownership costs; fast



Problematic install; feels cheap; underwhelming print quality; no Mac drivers

SPECIFICATIONS Mono laser, 1,200x1,200dpi, 35ppm maximum speed, 10/100 Ethernet and USB interfaces. **Part code** None



MANUFACTURER	LEXMARK	OKI	BROTHER	SAMSUNG	KYOCERA MITA	HP	EPSON	TALLY GENICOM	DELL
Model	E342n	B6200N	HL-6050DN	ML-3561N	FS-1920N	LaserJet 2420n	EPL-N3000	Intelliprint 9035NL	M5200n
Rating	★★★	★★★★	★★★★	★★	★★★★★	★★★★	★★★	★★	★★★
QUOTED SPEEDS									
Quoted speed, mono	30ppm	24ppm	24ppm	33ppm	28ppm	28ppm	34ppm	34ppm	35ppm
Quoted warm-up time	Not stated	18s	20s	40s	Not stated	0s	17s	17s	Not stated
Quoted time to first page, mono	7.5s	10.2s	11s	9s	9.5s	10s	7s	9s	9.5s
Total quoted time to first print	35s	28.2s	31s	49s	18s	10s	24s	26s	Not stated
TESTED SPEEDS									
First page from sleep	31s	17.5s	31s	33.5s	17.5s	10s	21s	19.5s	41.5s
Test 1, 50-page text document	1m 58s (25.4ppm)	2m 14s (22.4ppm)	2m 10s (23.1ppm)	1m 38s (30.6ppm)	2m 03s (24.4ppm)	1m 49s (27.5ppm)	1m 35s (31.6ppm)	1m 34s (31.9ppm)	1m 43s (29.1ppm)
Test 1 duplex, 50-page text document	N/A	N/A	4m 40s (10.7ppm)	N/A	N/A	N/A	N/A	N/A	N/A
Test 2 letter, time to first page	8.5s	11.5s	13s	10s	11.5s	9.5s	8.5s	8s	10s
Test 2 letter, total time for 50 copies	1m 52s (26.8ppm)	2m 11s (22.9ppm)	2m 08s (23.4ppm)	1m 36s (31.3ppm)	1m 53s (26.5ppm)	1m 48s (27.8ppm)	1m 35s (31.6ppm)	1m 35s (31.6ppm)	1m 38s (30.6ppm)
Test 3, mixed colour	58.5s (24.6ppm)	1m 45s (13.7ppm)	1m 23s (17.3ppm)	1m 34s (15.3ppm)	2m 07s (11.3ppm)	1m 20s (18.0ppm)	50.5s (28.5ppm)	53s (27.2ppm)	1m 12s (20.0ppm)
PRINT QUALITY									
Maximum resolution	1,200x1,200dpi	1,200x1,200dpi	1,200x1,200dpi	600x600dpi	1,800x600dpi	1,200x1,200dpi	1,200x1,200dpi	1,200x1,200dpi	1,200x1,200dpi
PHYSICAL AND ENVIRONMENTAL									
Standard interfaces	10/100 Ethernet, USB, parallel	10/100 Ethernet, USB, parallel, 25-pin serial	10/100 Ethernet, USB Hi-Speed, parallel	10/100 Ethernet, USB, parallel	10/100 Ethernet, USB Hi-Speed, parallel	10/100 Ethernet, USB Hi-Speed, parallel	10/100 Ethernet, USB, parallel	10/100 Ethernet, USB, parallel	10/100 Ethernet, USB
Dimensions (HxWxD)	248x396x353mm	324x422x455mm	310x400x425mm	353x396x453mm	300x345x390mm	260x425x400mm	404x428x468mm	405x422x466mm	407x437x513mm
Weight	10kg	19kg	21kg	17kg	13kg	16.5kg	21kg	21kg	20.5kg
Noise	52dB(A)	50.3dB(A)	52dB(A)	55dB(A)	55dB(A)	53dB(A)	54dB(A)	54dB(A)	52dB(A)
Duty cycle (sheets per month)	15,000	75,000	60,000	150,000	125,000	75,000	150,000	150,000	175,000
Power consumption printing	460W (average)	1,080W (peak)	600W (average)	600W (average)	425W (average)	625W (peak)	959W (peak), 538W (average)	350W (average)	580W (peak)
Power consumption sleep	10W	14W	8W	11W	5.5W	8.5W	10W	14W	16W
PAPER HANDLING									
Maximum paper size	A4/legal	A4/legal	A4/legal	A4	A4/legal	A4/legal	A4/legal	A4/legal	A4/legal
Maximum paper weight	163gsm	216gsm	161gsm	163gsm	200gsm	200gsm	216gsm	216gsm	176gsm
Standard paper trays (capacity)	1 (250)	2 (400)	1 (500)	1 (500)	1 (500)	1 (250)	2 (700)	2 (700)	1 (500)
Maximum paper trays (capacity)	2 (800)	4 (1,500)	2 (1,000)	2 (1,000)	4 (2,000)	2 (750)	4 (1,800)	4 (1,800)	3 (1,250)
Manual feed/multipurpose capacity	1	N/A	100	100	100	100	N/A	N/A	100
Output capacity (face down)	150	250	250	250	250	250	500	500	250
Output capacity (face up)	1	N/A	50	100	N/A	100	70	N/A	N/A
Duplex	No	PN 42588501 £183	Yes	£299	£187	No	£274	£269	£181
GENERAL									
Language(s)	PCL6, PS3	PCL5e, PCL6, PS3, Epson FX	PCL6, BR-Script3 (PS3 emulation), IBM Proprinter XL, Epson FX-850	PCL6, PS3, IBM Proprinter, Epson	PCL5e, PCL6, KPDL 3 (PS3 emulation), IBM Proprinter X24E, Epson LQ-850, Diablo 630, PDF direct print, Line Printer	PCL5e, PCL6, HP PS3 emulation, PDF direct print (with 128MB printer memory)	PCL5e, PCL6, PS3, Epson FX, IBM I239X, ESC/P, ESC/P2, GL2, Lj4	PCL5e, PCL6	PCL5e, PCL6, PS3 emulation
PCL fonts	84	94	78	46	80	102	100	1 (Courier)	89
PostScript fonts	89	136	66	136	80	93	17	None	158 scalable
Supported operating systems	Windows 95/98/Me/NT/2000/XP/PP 64-bit, Mac OS 9.x, OS X 10.2 or later	Windows 95/98/Me/NT/2000/XP, Mac OS 8.6 or later/OS X 10.1 or later	Windows 95/98/Me/NT/2000/XP, Mac OS 8.6 to 9.2/OS X 10.1/10.2	Windows 95/98/Me/NT/2000/XP, Mac OS 8.6-9.2/OS X 10.1-10.4	Windows 95/98/Me/NT/2000/XP, Mac OS 9 and OS X	Windows 98/Me/NT/2000/XP/PP 64-bit, Mac OS 9.x or later	Windows 95/98/Me/NT/2000/XP, Mac OS 8.1 or later, 9.x and OS X (PostScript only)	Windows 95/98/Me/NT/2000/XP, Mac OS X	Windows 95/98/Me/NT/2000/XP, Novell 4.2/5.1/6.0
Network protocols	TCP/IP, Netware IPX/SPX, LexLink DLC/LLC, AppleTalk	TCP/IP, Netware IPX/SPX, EtherTalk, NetBEUI, POP3 and SMTP for job submission and alerts	TCP/IP, Netware IPX/SPX, AppleTalk, DLC/LLC, NetBEUI	SPX/IPX, TCP/IP, EtherTalk, SNMP, HTTP 1.1	TCP/IP, LPR, Netware IPX/SPX, NetBEUI, AppleTalk	Not stated	TCP/IP, SSDP, SNMP, NetWare IPX/SPX, AppleTalk, NetBEUI	TCP/IP, SNMP, AppleTalk	Not stated
Memory, standard (max)	32MB (160MB)	128MB (640MB)	32MB (160MB)	32MB (288MB)	32MB (288MB)	64MB (320MB)	64MB (256MB)	64MB (256MB)	64MB (320MB)
Other		Third/fourth 550-sheet paper tray £294, onsite installation by arrangement		500-sheet paper tray £129, 40GB hard disk £129	500-sheet paper feeder £221, four year onsite warranty upgrade £318, onsite installation by arrangement	500-sheet paper tray Q5963A £124	550-sheet paper tray £227, output stacker £289, onsite installation/training from £163	500-sheet input tray £234, 500-sheet offset output stacker £234 Free onsite installation	Four year onsite warranty upgrade £153, 250-sheet paper tray £130, 500-sheet paper tray £167, envelope feeder £167
BUYING INFORMATION									
Street price including VAT	£299	£387	£415	£464	£474	£519	£563	£586	£596
Price per mono A4 page including VAT	1.23p	1.10p	0.89p	1.21p	0.47p	1.01p	0.92p	1.13p	0.67p
Capacity of supplied toner (pages)	2,500	6,000	7,500	6,000	7,500	6,000	6,000	10,000	12,000
Capacity of supplied drum (pages)	30,000	Replaced with toner	30,000	Replaced with toner	Three years or 300,000 pages	Replaced with toner	200,000 (fuser)	200,000 (fuser)	Replaced with toner
Design life (pages)	Not stated	600,000	600,000	500,000	300,000	Not stated	Not stated	1,000,000	1,000,000
Estimated total ownership cost, light use (15,000 pages)	£520	£497	£516	£610	£545	£640	£707	£757	£716
Estimated total ownership cost, medium use (50,000 pages)	£930	£939	£783	£1,047	£686	£1,003	£994	£1,097	£955
Estimated total ownership cost, heavy use (100,000 pages)	£1,674	£1,491	£1,266	£1,630	£968	£1,487	£1,426	£1,609	£1,195
Warranty	One year RTB, five-seven business days	One year onsite	One year onsite	One year onsite	One year RTB	One year RTB	One year onsite	One year next business day onsite	One year next business day onsite
Supplier	www.dabs.com	www.misco.co.uk	www.savastore.com	www.dabs.com	www.savastore.com	http://uk.insight.com	www.savastore.com	www.tgshop.co.uk	Dell 08701 524699
Details	www.lexmark.co.uk	www.oki.co.uk	www.brother.co.uk	www.samsung.co.uk	www.kyoceramita.co.uk	www.hp.co.uk	www.epson.co.uk	www.tallygenicom.co.uk	www.dell.co.uk
Manufacturer part code	002850610	09004083	HL6050DN1	ML3561N/XEU	FS-1920N	Q5958A	C11C554001DA	043700	None

LABS VERDICT WORKGROUP LASERS

Every printer here can produce decent prints at a respectable speed, and some are very fast. However, although every one is cheaper to run than a typical consumer printer, only five work out at less than a penny per A4 page.

If your budget is tight, Brother's HL-6050DN is the best choice. It's small, but it has a 500-sheet paper cassette and a built-in duplex. It has low running costs and comes with an onsite warranty. The HL-6050DN is our Best Budget Buy.

Kyocera Mita's FS-1920N costs just £60 more. It has no duplex unit or onsite warranty, but it's similarly compact and prints faster. The wealth of available upgrades helps to make it a sensible long-term investment, and printing one sheet of A4 paper costs less than half a penny. If you buy paper in bulk for half a penny a sheet, the total cost of each printed page will be just 1p. It could save you a fortune over its 300,000-page lifespan, and it wins our Best Buy award. **CS**

BROTHER HL-6050DN



KYOCERA MITA FS-1920N

